

The New Facility

The Nova Scotia Environmental Health Centre (NSEHC) is a one-of-a-kind, world class facility dedicated to research and treatment of environmentally triggered sensitivities. Located in Fall River, the new Environmental Health Centre provides a clean, safe environment for the patients currently receiving treatment and many of the 1100 patients on the waiting list.

Background

Helping those affected by environmental sensitivities and preventing the decline into illness is dependent upon two things: understanding the etiology and natural history of the various disorders, and the validation of diagnostic and treatment methods. Controversy about these issues and the lack of expertise in Canada has led to confusion and distrust. Many affected by environmental sensitivities have little faith in the usual providers of health care and even less in the agencies responsible for compensation. This situation is unacceptable and will be greatly improved as the NSEHC fulfills its mandate and pursues the outlined goals.

Mission

"To become a national resource providing leadership in the prevention and treatment of people with environmental sensitivities."

Goals

- provide validated diagnostic and treatment methods for Environmental Sensitivities.
- conduct research in Environmental Sensitivities in collaboration with affected individuals, health care professionals, experts in building design and research scientists.
- provide leadership in public and professional education.
- provide a cadre of experts to assist provincial and national agencies in the development of policies related to prevention, recognition and treatment of Environmental Sensitivities.

A world class research facility

Part of the mandate of the NSEHC is to bring scientific inquiry into this controversial area of medical practice. As a result, the NSEHC will use a network of resources from the health care and academic sectors in Nova Scotia. The clinical facility will provide referred ambulatory care and is designed to be the clinical base for research into environmentally triggered illnesses. With its research partner, Dalhousie University, NSEHC will not only be equipped to provide leadership in professional and public education, but the Centre will also be a source of expertise to assist agencies in policy development.

Key areas of research will include:

- better description and diagnosis of environmental sensitivities,
- tests to substantiate diagnoses,
- intravenous and other forms of therapy; and
- rehabilitation.

Each of these areas has equal importance and must be dealt with simultaneously in clinical practice.

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A Practical Approach to Environmental Sensitivities

1. Research

NSEHC professionals have established a research plan which identifies several primary areas of focus:

Better description and diagnosis of environmental sensitivities.

One of the most important aspects of research is to develop a working definition of the illness(es) and define the characteristics of the group of patients referred to the Centre. Questionnaires have been developed and will be a central part of the first step.

Tests to substantiate the diagnosis.

A major criticism in the practice of Environmental Medicine has been the lack of objective criteria to confirm sensitivities. The current practice at the Environmental Health Centre is to use methods of testing that are non-controversial and accepted by various national bodies and allergy associations wherever possible.

Intravenous therapy.

Researchers are currently designing clinical trials to study the efficacy of several treatments.

Other forms of therapy.

Enzyme Potentiated Desensitization is being evaluated as a means of treatment.

Rehabilitation for the environmentally sensitive.

A full time Rehabilitation Counselor is on staff and is developing a formal study on barriers to preventing patients with environmental sensitivities from returning to work. Additional studies are also being explored.

2. Clinical Facilities

To conduct meaningful research, it is essential to provide exemplary clinical care. The clinical facilities will provide ambulatory care on a referral basis to individuals of all ages who have environmental sensitivities. The facility emphasizes:

- ambulatory care;
- a multidisciplinary health care team;
- a prospective, controlled, unbiased approach which meets with contemporary scientific standards of new, preventive, diagnostic and treatment methods; and
- effective liaison with primary care physicians and other specialists.

3. Education

All NSEHC staff members will play an important role in education. In time, an educational specialist will be hired to develop educational materials and implement outreach programs through collaboration with agencies responsible for public and professional education. Since education is a major focus of the NSEHC, new materials will be developed constantly as new research is completed.

Diagnosis and Treatment

Diagnosis

When a patient experiences symptoms of environmental sensitivity which interferes with normal life, and is referred to the Nova Scotia Environmental Health Centre, the staff begin an investigation process. They will not simply treat symptoms, they will look for the underlying environmental factors related to the illness. New patients begin by completing a detailed questionnaire and meeting with a physician. Lab tests such as the ones listed below, will often be recommended.

- skin testing - an extensive range of tests for sensitivities to pollens, molds, dust, dander and chemicals
- laboratory tests/services and other chemical analyses
- general health survey and blood tests
- lung function testing
- neuropsychological testing

Treatment

When triggering agents are pinpointed, the physician determines an individualized program to help each patient achieve maximum health. This program includes educating patients about their sensitivities, nutrition, environmental exposures as well as getting them actively involved in treatment. Some patients will also receive immunotherapy which is designed to desensitize patients to the agents which affect them.

Until the NSEHC validates other treatments through research, patients may receive the following treatments:

- intravenous therapy of deficient minerals
- nutritional counselling
- psychological support

Other treatments are likely to be offered depending upon each patient's specific problem. Our researchers will formally evaluate newer forms of treatment before introducing them. Patients will have the opportunity to participate in research studies.

The Evolution of the NSEHC

In 1989, the Nova Scotia Environmental Medicine Clinic was established in the Bethune Building of the Victoria General Hospital. It was developed by the Environmental Health Center - Dallas with Dr. G.H. Ross as medical director. Patients believed to be suffering from environmental sensitivities were referred to the Clinic by their family physicians or other specialists.

Several hundred patients visited this part-time clinic and approximately four hundred were still in the process of treatment at the time of the transition to a full-time clinic five years later. In February 1994, the NS Environmental Medicine Clinic became the Environmental Health Clinic - Dalhousie University. Dr. Roy Fox was appointed as interim director.

The full-time clinic was established with governance provided by a steering committee with representatives from the Dalhousie University Faculty of Medicine, the NS Department of Health, the NS Medical Society, the community and complementary health professionals. By September 1994, the Steering Committee found additional space in the Fall River Family Practice because of the environmental conditions within the Bethune Building. By this time there were over 600 patients on the waiting list.

One of Dr. Fox's mandates as director was to identify the site for a permanent location of a new Environmental Health Centre. In November 1994, after extensive evaluation, a site in Fall River, Nova Scotia was selected. An existing building, plus a new, carefully constructed addition houses the 8,500-square-foot Centre. The new NSEHC officially opened May 2, 1997. The new facility adds the discipline of research on environmental sensitivities to its mandate and also addresses the issue of treatment in an environment that was specially designed, constructed and decorated with appropriate materials.

Currently, nearly 700 people receive treatment at the NSEHC. Between 1990 and 1997, physicians at the Environmental Health Clinic saw over 800 patients in consultation. The waiting list continues to grow and currently stands at about 1100.

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Administrative Team

A shared responsibility

The Dalhousie University Faculty of Medicine and the Nova Scotia Department of Health share administrative responsibility for the Nova Scotia Environmental Health Centre. A steering committee executes administrative functions. The Committee consists of:

Chairman - Dean of Medicine, Dalhousie University
Faculty of Medicine - three representatives
Department of Health - three representatives
Cobequid Multiservice Centre - one representative
Medical Society - one representative
Complementary Health Professional - one representative
Community - four representatives including one member of the business community
Ex officio - Director, NSEHC
 - Research Director, NSEHC

The Steering Committee reports to the Faculty and the Department on management issues and advises on future developments of the NSEHC. The Committee meets approximately once every two months. Member appointments are for an 18 month term to begin, but will be for three years following this initial phase with the opportunity for renewal. The Director reports to the Steering Committee and is responsible for ensuring appropriate standards of clinical care and ethical research. The Director makes recommendations to the Medical Advisory Board of the Cobequid Multiservice Centre for all clinical appointments. The Medical Advisory Board members ensure the credentials, skills, and competency of these appointees. The NSEHC is associated with the Cobequid Multiservice Centre for clinical care to ensure compliance with standards of practice. Research governance is part of the responsibility of the Dalhousie Faculty of Medicine.

Research Advisory Committee

The Research Director chairs a Research Advisory Committee which reports to the Steering Committee. It consists of: two or three community representatives: scientists from the Faculty of Medicine, other departments, government agencies, and universities who can contribute their expertise to the research agenda; and an ex-officio Research Associate. The functions of the Research Advisory Committee include:

1. Develop a research plan that delineates priority areas for research.
2. Develop the process and criteria for review of the research proposals.
3. Assure a full and complete scientific review, whether it be by this Committee or externally if the Committee does not have the expertise.
4. Assure proposals are given appropriate ethics review according to the latest Tri-Council standards guidelines for research involving human subjects.
5. Stimulate research through funding of pilot projects as funding permits.
6. Develop policies for the development of information systems, biological sampling, access to data, etc.
7. Report regularly to the Steering Committee.

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Operational Team

Employees are the backbone of most organizations and the NSEHC is no different. The Clinic currently employs nine full-time people who are committed to Environmental Sensitivities research, education and treatment. The NSEHC employs 12 individuals.

Administrative Positions

Director - Dr. Roy Fox

Research Director - Dr. Michel Joffres

Administrative Support - Elizabeth Price, Brenda Munro, Gail Sedgewick

Preventive, Diagnostic and Treatment Staff

Testing Department - Brenda Sabo, Debbie Lawrence

Environmental Health Nurses - Lorelei Chaulk, Audrey Barrett

Rehabilitation Counselor - Susan Coldwell

Patient/Public and Professional Education

Resource Secretary - Anne MacDougall

Research Associate - Tim Williams

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Innovative Construction Approach

The unique architectural and engineering design of the NSEHC has been a collaborative effort. Working closely with patients and staff, William Nycum and Associates Ltd. of Halifax used a series of innovative techniques to ensure environmentally ill patients are treated in a completely “clean” environment.

The philosophy of the design was to create an atmosphere that demonstrates a healthy and healing environment where people can get better. Because the environment can so dramatically affect people with EI, great care must be taken to ensure a positive one for treatment and research. In addition, the use of colour and images has been given significant consideration. Through the use of special materials, the new facility will also allow researchers to remove the environmental factors that interfere with the diagnosis and treatment of the illness.

To achieve this end, the features listed below have been put in place.

Architectural Design

- The NSEHC is an 8,500-square-foot building subdivided into four zones based on the degree of cleanliness and/or potential for activities to adversely affect air quality. Zone three is the cleanest for the exclusive care and treatment of patients.
- Hard, non-porous clay tiles, glass blocks, and glazed ceramic blocks ensure a non-toxic environment in examination rooms.
- Untinted windows provide full spectrum daylight.
- A special testing chamber allows health care professionals to conduct research on agents which trigger reactions from patients.

Construction

- The garbage-free construction site had strictly enforced no-smoking and no aromatic personal care product policies to minimize contamination of the site.
- An off-gassing procedure took place before furnishings and equipment were installed.
- No moisture-damaged materials were permitted on the site.
- Electric heat and negative air pressure were provided during winter construction to maintain premium air quality.
- All power tools used in construction of the interior were electric.

Electrical and Mechanical Systems

- Low voltage switches were installed throughout with raceways mounted low in the occupied rooms.
- A state-of-the-art air handling system provides the option for outside air ventilation or recirculation throughout the different zones. Air ventilation is monitored at all times.
- Individual air temperature controls exist in all occupied rooms.
- Maintenance of the mechanical systems is possible without entering the occupied zones of the building, providing easy accessibility to the mechanical equipment and filter banks.

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Biography

Dr. Roy Fox

Director, Nova Scotia Environmental Health Centre

MD, BS, FRCPC, FRCP, FACP, FAAEM

Currently

Director, Nova Scotia Environmental Health Centre, Fall River, Nova Scotia
Professor of Medicine, Dalhousie University, Halifax, Nova Scotia

Education and Fellowships

Born in Beccles, Suffolk, England.

Graduated from the University of Newcastle-upon-Tyne, England with Honours, 1965.

Postgraduate training in Internal Medicine, Gastroenterology and Hepatology in the teaching hospitals in Newcastle and the Royal Free Hospital, London.

Fellowship training in Immunology at Scripps Institute and Research Foundation, California.

Fellowship in Environmental Medicine at the Environmental Health Center - Dallas, Texas from October 1992 - 1993.

Professional Positions

Academic appointments in Departments of Medicine and Microbiology at Dalhousie University from 1973 - 1980.

Professor of Geriatric Medicine, Manchester University, England from 1980 - 1983.

Professor of Medicine, Dalhousie University from 1983 - present.

Head of Geriatric Division and Director of Centre of Health Care for the Elderly from 1985 - 1991.

Director of the Environmental Health Centre - Dalhousie University, from March 1994 - present.

Publications and Associations

Author of over 100 scientific papers in fields of clinical medicine, immunology, geriatrics and environmental medicine. Editor of two books and contributor to seven others.

Has served nationally on the Canadian Society of Clinical Investigation and the Canadian Society of Geriatric Medicine (Past President).

Currently a Fellow of the American Academy of Environmental Medicine and serving as North American Editor of the Journal of Nutritional and Environmental Medicine.

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Biography

Dr. Michel Joffres

Research Director, Nova Scotia Environmental Health Centre

MD, PhD

Currently

Research Director, Nova Scotia Environmental Health Centre, Fall River, Nova Scotia
Associate Professor, Department of Community Health and Epidemiology - Faculty of Medicine,
Dalhousie University, Halifax, Nova Scotia

Education

Born in Tarascon/Ariege, France.

Baccalaureate in Mathematics from Lycee Gabriel Faure, Foix, France.

M.D. from Universite Toulouse Faculte de Medecine, France.

Master of Sciences in Public Health with a major in Epidemiology, School of Public Health, University of Hawaii, USA.

General Preventive Medicine Residency Program graduate from the School of Public Health, University of Hawaii.

Ph.D in Biomedical Sciences (Biostatistics - Epidemiology) from the School of Public Health, University of Hawaii.

Professional Positions

Epidemiologist, Honolulu Heart Program, Japan-Hawaii Cancer Study and Wellington Hospital, New Zealand.

Instructor, School of Public Health, University of Hawaii.

Assistant Professor, Division of Pediatric Cardiology, Department of Pediatrics, University of Alberta, and
Division of Cardiology

Chronic Disease Epidemiologist, Alberta Health.

Clinical Professor, Health Services Administration and Community Medicine, University of Alberta.

Publications and Associations

Over 30 publications in national and international journals and 30 abstract presentations.

Memberships with Society of Epidemiologic Research, American Heart Association, Epidemiology Council,
Canadian Cardiovascular Society. Chaired national committees. Serves as reviewer for national granting agencies
and for national and international scientific journals.

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There are a number of different terms used to describe the state of ill health that many people with environmental sensitivities experience. Those marked below by an asterisk are distinctly recognized medical conditions and are listed as such in the International Classification of Diseases.

Allergic Toxemia
Cacosmia
Cerebral Allergy
Chemical Hypersensitivity Syndrome
Chemical Induced Immune Dysfunction
Ecological Illness
Environmental Irritant Syndrome
Environmentally Induced Illness
Environmental Hypersensitivity Disorder
Environmental Illness

Gulf War Syndrome
Immune System Dysregulation
Intrinsic Asthma*
Multiple Chemical Hypersensitivity
Multiple Chemical Sensitivities
Sick Building Syndrome
Total Allergy Syndrome
Toxic Encephalopathy*
Toxic Response Syndrome
20th Century Disease